Appendix A CEQA Checklist

CEQA Environmental Checklist

12-ORA-91	**7.9/9.5**	**0C5600**
Dist.-Co.-Rte.	P.M/P.M.	E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

I. AESTHETICS

a) No Impact. Construction of Alternatives 2 and 3 would not block any views of scenic vistas from State Route 91 (SR-91) of surrounding hillsides or natural features within the Santa Ana River Canyon since all project improvements are at grade. Any alteration of views from the project area would alter views of existing urban areas and would not alter the background views of the San Gabriel Mountains or the Peralta Hills. Therefore, implementation of Alternatives 2 and 3 would have no impact on views of scenic vistas from SR-91, and no mitigation is required.

b) Less Than Significant Impact. The eastern limits of the proposed Build Alternatives, east of State Route 55 (SR-55), are located within a State-Designated Scenic Highway. While the eastern limits of the proposed Build Alternatives are within the State-Designated Scenic Highway, all project improvements are at grade, and construction of the Build Alternatives would not block views of surrounding hillsides or natural features within the canyon. Additionally, any alteration in views from the portion of the project area within the Scenic Highway would alter views of existing urban areas and would not alter the background views of the San Gabriel Mountains or the Peralta Hills. Therefore, with the implementation of Minimization Measures V-1, V-2, and V-3, any impacts to views from the Scenic Highway would be considered less than significant, and no mitigation is required.

c) Less Than Significant Impact. The analysis in the Visual Impact Assessment prepared for the project (California Department of Transportation District 12 [Department], March 16, 2010) indicates that Build Alternatives 2 and 3 would have a low to moderate visual impact on each of the three key views that were evaluated. Both Build Alternatives include roadway widening and construction of retaining walls that would result in a visual impact and a decrease in visual quality within the project limits. However, Alternative 3 would have a greater visual impact than Alternative 2 because it would widen the roadway by one additional lane and construct three more retaining walls than would be constructed under Alternative 2. The visual simulations for the postproject conditions at each of the key views show that both Build Alternatives would result in a general degradation of the visual environment. The visual character would remain that of a freeway in an urban setting, and future conditions would become more similar to existing conditions as the project landscaping matures. Therefore, with the implementation of Minimization Measures V-1, V-2, and V-3, any impacts to the existing visual

character or quality of the site and its surroundings would be considered less than significant, and no mitigation is required.

d) Less Than Significant Impact. The project would require nighttime construction activities in some parts of the project area. Portable equipment would be used to illuminate the work areas. If construction will occur at night, portable lighting would be directed away from adjacent land uses.

The project area is located in an urban area, with abundant existing street, vehicle, commercial, industrial, and residential lighting. The Build Alternatives would introduce additional lighting. However, any new light fixtures would be shielded, directed away from residential areas, and focused within the project right-of-way. Therefore, both temporary and permanent impacts are considered less than significant, and no mitigation is required.

II. AGRICULTURAL RESOURCES

a), b), c), d), and e) No Impact. There are no farmlands or agricultural resources within or immediately adjacent to the disturbance limits of the proposed Build Alternatives. Areas adjacent to the project area are not zoned for agricultural use, and there are no Williamson Act contracts in effect within or adjacent to the project limits. Therefore, the Build Alternatives would not result in impacts related to the direct or indirect conversion of farmlands to nonagricultural uses or conflicts with agricultural land use designations or Williamson Act contracts, and no mitigation is required.

III. AIR QUALITY

a) No Impact. The proposed Build Alternatives are consistent with the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) and will not conflict with or obstruct implementation of any applicable air quality plan. Therefore, no impact is anticipated, and no mitigation is required.

b) Less Than Significant Impact. The proposed project is located in a nonattainment area for ozone (O_3), particulate matter less than 10 microns in diameter (PM_{10}), and particulate matter less than 25 microns in diameter ($PM_{2.5}$). As described in Section 2.13.3.2, Air Quality, the proposed Build Alternatives would not result in any exceedances of the 1-hour and 8-hour carbon monoxide (CO) standards. The proposed Build Alternatives would not contribute to a $PM_{2.5}$ or PM_{10} hot spot that would cause or contribute to a violation of the federal $PM_{2.5}$

or PM_{10} standard. Therefore, impacts are considered less than significant, and no mitigation is required.

c) Less Than Significant Impact. As previously described, the proposed Build Alternatives would not result in any exceedances of the 1-hour and 8-hour CO standards or contribute to a $PM_{2.5}$ or PM_{10} hot spot that will cause or contribute to a violation of the federal $PM_{2.5}$ or PM_{10} standard. Therefore, impacts are considered less than significant, and no mitigation is required.

d) Less Than Significant Impact. The proposed Build Alternatives may result in temporary, short-term construction-related increases in pollutant concentrations specifically associated with fugitive dust and construction equipment emissions. The implementation of South Coast Air Quality Management District (SCAQMD) Rules and Regulations, Department Standard Conditions, and Minimization Measure A-1 would minimize potential short-term adverse project air quality impacts to sensitive receptors. Therefore, impacts are considered less than significant, and no mitigation is required.

e) Less Than Significant Impact. Implementation of the proposed Build Alternatives may result in minor and temporary odors from construction activities such as laying asphalt. These odors would be less than significant and would cease following completion of the project. Operation of the completed Build Alternatives would neither directly or indirectly create objectionable odors. Therefore, impacts would be considered less than significant, and no mitigation is required.

IV. BIOLOGICAL RESOURCES

a) Less Than Significant Impact. A total of 2 of the 20 special-status plant species with potential of occurring within the Biological Study Area (BSA) are federally and/or State-listed as endangered, threatened, or candidate species. These special-status plant species are identified as Braunton's milk-vetch and the Santa Ana River woolystar. No suitable habitat for either of these species is present within the BSA, largely due to ongoing management activities within the Santa Ana River and urbanization within the BSA. These two species were confirmed to be absent within the BSA based on surveys conducted within the appropriate blooming season.

Other special-status plant species with the potential to occur within the BSA include chaparral sand-verbena (California Native Plant Society [CNPS] List 1B),

Plummers Mariposa lily (CNPS List 1B), southern tarplant (CNPS List 1B), white rabbit-tobacco (CNPS List 2), and San Bernardino aster (CNPS List 1B). Some suitable habitat that exists on site could support these species; however, much of this habitat on site is disturbed, developed, or degraded by infestations of nonnative species. In addition, none of these species were found during botanical surveys conducted in 2009 during the appropriate blooming period. Therefore, all of these other special-status species are considered absent from the BSA.

A total of 3 of the 15 special-status animal species with the potential of occurring within the BSA are federally and/or State-listed as endangered, threatened, or candidate species. These species include the Santa Ana sucker, coastal California gnatcatcher, and least Bell's vireo. In addition, the white-tailed kite is considered to be a fully protected species by the State of California. No suitable habitat for these species is present within the BSA.

Another special-status wildlife species with the potential of occurring within the BSA is the Cooper's hawk. Cooper's hawk is a medium-sized hawk that prefers forests but is becoming more common in urban areas. Cooper's hawks declined in the late 1940s and 1950s as a result of dichloro-diphenyl-trichloroethane (DDT) and pesticide contamination. In the 1960s, populations started to rise, but Cooper's hawks are still of special concern to many states. A Cooper's hawk was observed (in flight) within the BSA during biological resource surveys conducted in 2009. The Build Alternatives are not expected to directly or indirectly impact this special-status wildlife species or any natural communities and/or resources upon which this species is dependent. The BSA may presently serve as a foraging area for this species. Implementation of the Build Alternatives would not have a measurable impact on the foraging area, and the BSA does not contain any potential resources that this species would occupy (oak woodland or natural riparian/riverine communities).

Special-status bridge- and crevice-dwelling animal species (i.e., bats) with the potential to occur in the BSA include western mastiff bat and Yuma myotis. No bat species were directly observed during the bat habitat suitability survey. However, a small amount of guano was detected within the BSA under the Santa Ana River Bridge, indicating that some suitable roosting exists within the BSA for all of the special-status bat species. The widening of the Santa Ana River Bridge would likely increase future potential bat roosting habitat. Because of this,

the Build Alternatives are not expected to substantially impact the bats' long-term use of the structures.

Therefore, based on the analysis above, impacts to special-status plant or animal/ wildlife species are considered less than significant, and no mitigation is required.

b) Less Than Significant with Mitigation. Riverine habitat, comprising of approximately 5.6 acres (ac), is the only Natural Community of Special Concern in the BSA. This riverine habitat contributes at a moderate level to wildlife habitat as well as a high level of aquatic habitat. The Santa Ana River Bridge also extends over this habitat and has evidence of previous nesting by swallows and/or swifts.

The proposed Build Alternatives would result in direct permanent and temporary impacts to potentially jurisdictional riverine habitat. Areas of temporary impacts will only be impacted during construction to allow for construction and equipment staging. Table A-1 quantifies how much the project alternatives will impact the riverine habitat.

Table A-1 Project Impacts to ACOE Jurisdictional and Nonjurisdictional Areas

Build Alternative	Potential Jurisdictional Areas	Nonwetland Waters of the U.S. (ac)	
		Permanent Impacts	Temporary Impacts
Alternative 2	**ACOE Jurisdictional Areas**		
	ACOE Jurisdictional Areas	0.13	4.07
	Potential ACOE Jurisdictional Areas (Significant nexus determination required)	0.03	N/A
	Total Potential ACOE Jurisdictional Areas	0.17	4.07
Alternative 3	**ACOE Jurisdictional Areas**		
	ACOE Jurisdictional Areas	0.29	4.43
	Potential ACOE Jurisdictional Areas (Significant nexus determination required)	0.15	N/A
	Total Potential ACOE Jurisdictional Areas	0.43	4.43

Note: Numbers were calculated from preliminary design numbers and are subject to change with further design and structure evaluations. The maximum envelope was used in order to assist with the impacts analysis.

ac = acre(s)
ACOE = United States Army Corps of Engineers

The existing riverine habitat falls under the regulatory jurisdiction of the United States Army Corps of Engineers (ACOE) pursuant to Section 404 of the Clean Water Act (CWA) and the California Department of Fish and Game (CDFG) pursuant to Section 1600 of the California Fish and Game Code. Compensatory mitigation for riverine habitat will be required for ACOE Section 404 and CDFG Section 1600 permitting. As discussed in Mitigation Measure BIO-2, riverine habitat subject to ACOE and CDFG jurisdiction may be mitigated at a minimum mitigation-to-impact ratio up to 3:1 for permanent impacts and 1:1 for temporary impacts. Mitigation may involve in-lieu fee transfer to an organization that manages and restores similar riverine habitat. Final details for compensatory mitigation will be evaluated through coordination between the Department and the resource agencies. In addition to direct permanent and temporary impacts to potential jurisdictional riverine habitat, the proposed Build Alternatives would result in indirect impacts through the general degradation of riverine habitats. Temporary indirect impacts to riverine habitats include construction-related impacts such as dust, potential fuel spills from construction equipment, possible night lighting during construction, and activities of equipment or personnel outside designated construction areas, as well as operational impacts such as impacts on adjacent habitats caused by storm water runoff, traffic, and litter.

Site Design and Source Control and Treatment Best Management Practice (BMPs) will be incorporated into the project to help avoid, minimize, and mitigate potential adverse impacts due to increased storm water runoff.

Permanent indirect impacts to riverine habitats include enhancing germination and proliferation of nonnative invasive plant species. Invasive plant species are those that outcompete native plants and are of particular concern. Indirect impacts are difficult to quantify since they area a result of normal activities and can change from day to day and shading.

With the implementation of Minimization and Avoidance Measure BIO-1 and Mitigation Measure BIO-2, impacts to Natural Communities of Concern are considered less than significant.

c) Less Than Significant with Mitigation. As described in the Jurisdictional Delineation Report (January 2010), the Santa Ana River as well as several drainages that connect to the Santa Ana River are located within the proposed impact area. All of these drainages have been altered in some form or are wholly

man-made. The Santa Ana River is the only relatively permanent water (RPW) within the study area and is considered jurisdictional by the ACOE. No significant nexus determination is required for the Santa Ana River per ACOE guidance (2008).

With the exception of the Santa Ana River itself, all of the drainages within the study area will require a significant nexus determination. Drainages within the study area that require a significant nexus determination do not have a relatively permanent flow but appear to have a connection to the Santa Ana River. Table A-1 (found in Response IV. b above) shows the proposed Build Alternative impacts to potential ACOE jurisdictional and nonjurisdictional areas within the project area. The project would result in temporary impacts to 4.43 ac of nonwetland waters of the U.S. and permanent impacts to 0.433 ac of nonwetland waters of the U.S. With the implementation of Minimization and Avoidance Measure BIO-1 and Mitigation Measure BIO-2, impacts to jurisdictional water would be considered less than significant.

d) Less Than Significant Impact. Temporary impacts to wildlife corridors could occur during construction due to the increased presence of equipment, structures, and construction personnel. During construction, extension of bridge piers and large pieces of equipment required for work at the Santa Ana River Bridge could potentially act as barriers to wildlife movement and restrict wildlife use of the corridors in the construction areas. As wildlife movement primarily occurs at night, and construction activities at the potential wildlife corridors would primarily occur during the day, temporary impacts to wildlife crossings would be minimal.

Additional structures or pilings at potential wildlife corridors have the potential to obstruct wildlife movement. Alternatives 2 and 3 would extend the bridge piers at the Santa Ana River Bridge. However, the bridge pier extensions proposed at these locations would be spaced wide enough and within the same alignment as the existing piers to not obstruct wildlife movement. Because there would be no permanent obstruction to wildlife movement, project impacts to wildlife corridors would be minimal. Therefore, both temporary and permanent impacts to wildlife corridors are considered less than significant, and no mitigation is required.

e) No Impact. Existing landscaping and irrigation systems removed during roadway construction would be replaced. Replacement plantings would be implemented

under a separate construction contract following construction of the proposed roadway project. Specimen trees would be used to replace mature trees removed by the roadway contract. Trees removed or impacted as part of the project are within State right-of-way and would be replaced in accordance with the Department's guidelines. Therefore, the proposed Build Alternatives would not conflict with any local policies or ordinances protecting biological resources such as tree ordinances.

f) No Impact. The project is not located in an adopted Habitat Conservation Plan (HCP) area, Natural Community Conservation Plan (NCCP) area, or other approved local, regional, or State HCP area. Therefore, the proposed Build Alternatives would not conflict with an adopted HCP or NCCP, and no mitigation is required.

V. CULTURAL RESOURCES

a) No Impact. No historical resources were identified within or immediately adjacent to the Project Area Limits (PAL) (Historical Resource Compliance Report (HRCR), January 2010). Therefore, the project would not impact any known historical resources and would not change the significance of any resource pursuant to Section 15064.5. No mitigation is required.

b) Less Than Significant Impact. No archaeological resources were identified within or immediately adjacent to the PAL for the Build Alternatives. Therefore, the Build Alternatives would not impact any known archaeological resources and would not change the significance of any resource pursuant to Section 15064.5. No mitigation is required.

However, there is potential for previously unknown and undocumented resources to be found during construction of the Build Alternatives. If buried archaeological materials are exposed during construction, it is Department policy that work in the area must halt until a qualified archaeologist can evaluate the nature and significance of the find (as noted in Minimization Measure CR-1). Therefore, impacts to previously unknown and undocumented archaeological resources are considered less than significant.

c) Less Than Significant Impact. The literature review and records search obtained through local museums indicated that sediments dating from the Pleistocene period located within the project limits have the potential to contain significant nonrenewable paleontological resources. Thus, it is likely that additional

significant nonrenewable paleontological resources would be encountered during excavation of 8 feet (ft) below ground surface (bgs) or more within Pleistocene sediments. The field survey confirmed that sediments exposed at the surface are composed of recent alluvium and artificial fill, both of which have a low sensitivity for paleontological resources.

Within the Area of Direct Impact (ADI), project plans call for excavation that may extend up to 10 ft bgs. The proposed Build Alternatives would include excavation for the following: widening the roadway; surface street improvements; overexcavation to reach competent soil, storm drain, and utility trenches; and wall footings. Pile driving for widening existing bridge structures would be to a maximum depth of 60 ft, but these activities affect a small area and usually have minimal impact. Since the study area includes areas with exposures of native sediments as well as artificial fill, this report addresses the potential for impacts to all sediments, native or artificial.

The excavation depths shown on the project plans are as follows:

- Road Bed: Approximately 4 ft
- Storm Drains (assuming a 48-inch pipe): Approximately 6 ft deep
- Utilities (both new and relocated): Depends on the utility, but the maximum depth would not exceed 10 ft
- Wall Footings: Maximum depth of approximately 8 ft

Thus, as the project is currently designed, the only areas that will require monitoring will be where utilities extend deeper than 8 ft and possibly at the wall footings if they approach the depth of 8 ft bgs. Therefore, during construction there would be a potential for significant, unrenewable paleontological resources to be encountered at depths greater than 8 ft. Minimization Measure PAL-1, provided in Section 2.11, requires preparation of a Paleontological Mitigation Plan (PMP), which would address the potential for adverse impacts to paleontological resources during construction of Alternatives 2 and 3. With the implementation of minimization measure PAL-1, impacts would be considered less than significant.

d) Less Than Significant Impact. No human remains are known to exist within the project APE. Therefore, the proposed Build Alternatives would not impact any known human resources. However, if human remains are exposed during construction, State Health Code Section 7050.5 states that no further disturbance

shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98. In addition, the District 12 Environmental Planning Branch shall be immediately notified, as noted in Minimization Measure CR-2. Therefore impacts to human remains are considered less than significant.

VI. GEOLOGY AND SOILS

a) i) Less Than Significant Impact. The proposed Build Alternatives are not located within an Alquist-Priolo Earthquake Fault Zone Area (APEFZA) area. No known fault crosses or extends toward the project site. The nearest known faults are located approximately 0.62 mi from the site. According to the City of Anaheim General Plan, the nearest contributing fault is considered to have a low potential for surface rupture. Although the potential for a surface fault rupture hazard at the site due to primary movement along a known fault is considered low, the Department is considering the possibility of seismic activity and therefore is including standard design features outlined in the Department's seismic design criteria to minimize and/or avoid potential adverse impacts from seismic events. Therefore, the potential impact from surface fault rupture within the project limits is considered less than significant, and no mitigation is required.

ii) Less Than Significant Impact. The project site is within a seismically active region and can be expected to be subjected to ground shaking during a seismic event. The proposed construction would be designed in accordance with the requirements of the Department Seismic Design Criteria, which would reduce impacts from seismic ground shaking to below a level of significance.

iii) and iv) Less Than Significant Impact. The project is located in an area that may be subject to liquefaction. Although there are no areas located within the project limits that are susceptible to seismically induced landslides, an area located adjacent to the eastern side of the State Route 55 (SR-55)/State Route 91 (SR-91) interchange is an area where seismically induced landslides may potentially occur.

Additional field investigation in the form of a Final Geotechnical Design Report (GDR) will be conducted during final design to evaluate the existing groundwater levels along the project site and the potential extent of liquefaction, earthquake-induced settlements, and lateral spreading in the area. In addition, the proposed tieback walls will be evaluated in the Final Foundation Report

(FFR). The Final GDR and FFR will also provide detailed analyses for the various design features. Based on the results of the Final GDR and FFR, the project design will include deepening the foundation and/or increasing the depth of piles or other suitable remedies. In addition, fill slopes will be stabilized by utilizing the 1 vertical to 2 horizontal (1v:2h) slope, assuming no liquefaction and lateral spreading. With implementation of the recommendations of the Final GDR and FFR, potential seismic impacts associated with Build Alternatives 2 and 3 are considered less than significant.

b) Less Than Significant Impact. Permanent erosion impacts can possibly occur from cut slopes. Loose sediment from these slopes may be carried to drainages and streams during a rain event or strong winds. Vegetating the slopes and implementation of permanent BMPs (outlined in Section 2.9, Water Quality) would greatly reduce the amount of erosion and siltation. In addition, the natural slopes within the project site are covered with material that is granular in nature (i.e., sand and gravel). Slopes are typically covered with vegetation. Where cuts are proposed, the slope faces will be protected and held in place by retaining walls. Considering that the area impacted is limited and the measures have been incorporated into the project design, potential long-term erosion impacts would be less than significant.

The project area contains roads and bridge overcrossings; therefore, the top layers of soil would consist of fill material. As specified in Minimization Measure WQ-1, implementation of the Department erosion control measures during construction would minimize impacts related to erosion during construction and operation to a less than significant level.

c) Less Than Significant Impact. The project is located in an area that may be subject to liquefaction. Although there are no areas located within the project limits that are susceptible to seismically induced landslides, an area located adjacent to the eastern side of the SR-55/SR-91 interchange is an area where seismically induced landslides may potentially occur. See Responses VI. a, iii and iv above. Impacts associated with these geologic conditions are considered less than significant.

d) Less Than Significant Impact. Near-surface soils on the project site likely consist of artificial fill, consisting generally of sand and silty clays that have a low to moderate potential for expansion. Further investigations in the form of the

GDR and FFR will determine such parameters as bearing capacity, soil settlement, liquefaction, corrosion, seismic parameters, the presence or absence of expansive soils, and other construction considerations. Compliance with Department procedures identified in the GDR and FFR would minimize impacts related to expansive soils. Therefore, impacts associated with expansive soils would be less than significant.

e) No Impact. No septic or alternative waste treatment systems would be required for the proposed Build Alternatives because it is a transportation facility and it would not generate sewage demand. Therefore, no impacts related to these types of wastewater facilities are anticipated.

VII. GREENHOUSE GAS EMISSIONS

a) and b) An assessment of the greenhouse gas emissions and climate change is included in Section 2.13, Air Quality. While the Department has included this good-faith effort in order to provide the public and decision-makers as much information as possible about the project, it is the Department's determination that in the absence of further regulatory or scientific information related to greenhouse gas (GHG) emissions and California Environmental Quality Act (CEQA) significance, it is too speculative to make a significance determination regarding the project's direct and indirect impacts with respect to climate change. The Department does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in Section 2.13, Air Quality.

VIII. HAZARDS AND HAZARDOUS MATERIALS

a) Less Than Significant Impact. During the construction of Build Alternatives 2 and 3, asbestos-containing materials (ACMs) may be encountered in roadway structure materials that will be disturbed or demolished. In addition, typical hazardous materials used during construction include solvents, paints, and fuels. However, hazardous materials used during construction would be handled in accordance with standard federal, state, and local regulatory procedures. There are standard regulations and Department policies (avoidance and minimization measures) that must be followed with respect to handling and disposal of potentially hazardous materials during construction of the Build Alternatives to protect human health and the environment.

Routine maintenance activities would be required to follow applicable regulations with respect to the handling and disposal of potentially hazardous materials.

Operation and maintenance of the facilities proposed as part of the Build Alternatives would not introduce new sources of hazardous materials/waste but rather would continue existing exposure to transport of hazardous materials/waste associated with vehicles currently utilizing SR-91. No new permanent hazardous materials/waste impacts (direct or indirect) related to hazardous materials are anticipated beyond existing conditions. Avoidance Measures HW-1 through HW-4 would avoid potential impacts related to hazardous materials and hazardous wastes encountered during construction of Build Alternatives 2 and 3. Therefore, impacts related to hazardous materials are considered less than significant.

b) Less Than Significant Impact. The proposed Build Alternatives would not create a significant hazard to the public or the environment through any reasonably foreseeable upset or accident conditions involving the release of hazardous materials. Routine hazardous materials such as paint, solvents, and fuel would be used and transported through the project area during construction. Any hazardous substances released into the environment would be remediated following the Department's Construction Hazardous Waste Contingency Plan. Therefore, potential impacts associated with upsets and accidents involving the release of hazardous materials are considered less than significant, and no mitigation is required.

c) No Impact. No schools are located within 0.25 mile (mi) of an existing or proposed school. Therefore, the proposed Build Alternatives would have no impacts on schools related to hazardous materials.

d) No Impact. There are no documented hazardous materials sites pursuant to Government Code Section 65962.5 in the project area. Therefore, there is no impact related to documented hazardous materials sites pursuant to Government Code Section 65962.5 associated with the proposed Build Alternatives (Initial Site Assessment Update Memorandum, May 2010). No mitigation is required.

e and f) No Impact. The project site is not located within 3.2 kilometers (km) (2 mi) of a public airport, public use airport, or private airstrip. Therefore, the proposed Build Alternatives would not result in aviation-related safety impacts.

g) Less Than Significant Impact. During construction, traffic would be temporarily rerouted and/or delayed, potentially resulting in rerouting of evacuation routes outlined in emergency response plans or temporary delays in emergency response

times in the immediate project area. Implementation of a Department-required Transportation Management Plan (TMP), as outlined in Measure TRA-1, provided in Section 2.5, Traffic and Transportation, would minimize these short-term impacts during construction. Therefore, impacts to evacuation routes and emergency response plans are considered less than significant.

h) No Impact. The project site is located within an urbanized area surrounded by existing commercial, industrial, and residential development. There are no wildlands or fire hazard areas located in the vicinity of the project site. Therefore, no wildland fire impacts are anticipated.

IX. HYDROLOGY AND WATER QUALITY

a) Less Than Significant Impact. During construction, there is the potential for soil erosion and discharge of pollutants into drainages or storm drains. The proposed Build Alternatives would increase impervious surface area and result in greater contributions of typical road pollutants. The proposed Build Alternatives would be required to comply with applicable National Pollution Discharge Elimination System (NPDES) permit requirements for construction and operation to protect the beneficial uses of waters. In addition, Best Management Practices (BMPs) would be implemented during construction and operation of the proposed Build Alternatives. Measures WQ-1 through WQ-5, provided in Section 2.9, are standard water quality regulatory measures that would minimize project impacts to water quality. Therefore, impacts to violation of water quality standards or waste discharge requirements would be considered less than significant.

b) Less Than Significant Impact. The proposed Build Alternatives involve improvements to an existing transportation facility. The project will not use groundwater during operations, and no significant adverse groundwater supply impacts are anticipated. Dewatering activities may be required during construction. Groundwater dewatering may be necessary to construct structure footings and culvert extensions. Dewatered groundwater may contain high levels of total dissolved solids (TDS), salinity, high nitrates, or other contaminants that could be introduced to surface waters during construction. Groundwater and any other non-storm water dewatering activities are subject to the requirements of the De Minimus Permit (Order No. R8-2009-0003) or subsequent permit. Compliance with this permit, as stipulated in Minimization and/or Avoidance Measure WQ-5, would avoid adverse impacts to water quality associated with dewatering. The dewatering may require the use of BMPs, such as siltation discharge bags or baker

tanks, to remove potential pollutants that may be in the dewatering effluent. Therefore, impacts related to groundwater supplies and groundwater recharge are considered less than significant.

c) **Less Than Significant Impact.** Alternative 2 would increase the impervious area by 0.85 ac and Alternative 3 by 2.87 ac compared to the existing freeway facility. The increase in impervious area caused by the project is relatively small (much less than 1 percent) compared to the urbanized area within the entire Santa Ana River watershed. The Santa Ana River downstream of the project is an engineered flood control facility, the minor increase in runoff volume is not expected to result in channel erosion, and hydromodification is not expected within the Santa Ana River. In addition, the extension of the overcrossing piers within the Santa Ana River is not expected to further impede flow or change the hydraulic conditions within the Santa Ana River. New bridge piers would be placed further upstream in line with the existing piers, maintaining the existing hydraulic conditions.

Operation of the project is subject to the requirements of the Department National Pollutant Discharge Elimination System (NPDES) Permit. As part of these requirements, the Department must:

1. Consider approved Design Pollution Prevention (DPP) and Treatment Control BMPs for the project site; and
2. Construct DPPs and Treatment BMPs where feasible.

Currently, storm water runoff from SR-91 within the project limits is untreated. As part of the proposed Build Alternatives, Treatment BMPs that target the constituents of concern in the storm water runoff from the project area must be considered. The project would include BMPs that provide treatment for pollutants of concern per the Department guidelines.

Where feasible, DPP and Treatment Control BMPs would be incorporated into the project design. The Treatment Control BMPs would also be used to maximize pollutant treatment. All Treatment Control BMPs would be located outside of CDFG and ACOE jurisdictional waters. The siting and decision on the types of Treatment BMPs would be conducted consistent with the Caltrans Stormwater Quality Project Planning and Design Guide and documented in the project's Stormwater Data Report. BMPs selected would be based on the targeted constituents and may include any of the following: vegetated strips/swales, detention devices, infiltration devices, media filters, and/or other Department-

approved Treatment BMPs. The approved devices have been scientifically tested by the Department to ensure that expected pollutant loads from the proposed Build Alternatives would be reduced by implementation of DPP and Treatment Control BMPs. Therefore, impacts associated with the alteration of existing drainage, including the alteration of a stream or river in a manner that would result in substantial erosion or siltation, are considered less than significant, and no mitigation is required.

d) Less Than Significant Impact. The project will result in additional impervious surface with increased runoff in the project area, but will not alter drainage patterns. Routine implementation of the Caltrans Stormwater Management Program would prevent a substantial increase in the rate or amount of surface runoff that could lead to flooding, thereby having a less than significant impact on the rate or amount of surface runoff.

e) Less Than Significant Impact. The project involves modification of an existing transportation facility. It is not anticipated to increase peak storm flows such that they would impact downstream drainage facilities. Compliance with the Department's NPDES permit requirements, which is specified in Measure WQ-1, would minimize any incremental pollutant loading associated with the increased surface area of the proposed Build Alternatives. Therefore, impacts associated with runoff water that could exceed the capacity of storm water drainage systems or provide substantial sources of additional polluted runoff are considered less than significant, and no mitigation is required.

f) Less Than Significant Impact. Refer to Responses IX.a and IX.e.

g) No Impact. The project does not involve construction of housing in a 100-year flood hazard area. Therefore, no impacts related to the 100-year floodplain would occur.

h) Less Than Significant Impact. The extension of the Santa Ana River channel piers upstream for the bridge widening would result in transverse encroachments (i.e., perpendicular to the direction of flow) of the Santa Ana River 100-year floodplain. As part of the *Location Hydraulic Study*, modeling was conducted using the Corps Hydrologic Engineering Center River Analysis System (HEC-RAS) model to determine changes in the 100-year flood surface elevation with implementation of Alternative 3. Alternative 3 was modeled because it would result in the largest change to the project footprint at the Santa Ana River. After

widening of the bridge and extension of the bridge piers, the 100-year flood would continue to be contained within the Santa Ana River channel, and the proposed bridge would continue to have sufficient freeboard. Therefore, impacts to flood flows as a result of structures placed within the 100-year floodplain as part of the Build Alternatives would be considered less than significant.

i) **Less Than Significant Impact.** After widening of the bridge and extension of the bridge piers, the 100-year flood would continue to be contained within the Santa Ana River channel, and the proposed bridge would continue to have sufficient freeboard. Therefore, there would be no substantial flood-related risks to life or property associated with implementation of Build Alternatives 2 and 3. Based on the assessment of level of risk in the *Location Hydraulic Study*, the project is considered "low" risk. Therefore, exposure of persons or property to flooding risk is considered less than significant.

j) **No Impact.** The closest body of water is the Santa Ana River, which traverses the project limits in a north-south direction. However, the Santa Ana River is a free-flowing body of water (not an enclosed body of water) and would not be subject to seiches. The closest operational reservoir is Walnut Canyon Reservoir, which is located approximately 4.06 mi southeast of the eastern project limits. Based on the distance of Walnut Canyon Reservoir from the project site, the chance of a seiche affecting the areas within the project limits during a seismic event is considered remote.

Due to the project site's distance from the ocean, there is no foreseeable risk of tsunami inundation. There is no risk from seiches (oscillations in enclosed bodies of water caused by seismic waves) or mudflows at the project site.

X. LAND USE AND PLANNING

a) **No Impact.** Build Alternatives 2 and 3 will require the acquisition of private property. However, these acquisitions would be limited to a partial acquisition and three permanent easements and would not physically divide an established community. Therefore, the project would not divide an existing community.

b) **No Impact.** The project is consistent with the RTP, the RTIP, and the General Plan Circulation Element for the City of Anaheim and does not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. Therefore, there are no impacts to applicable planning documents.

c) No Impact. There is no HCP or NCCP applicable to the project area. Therefore, the proposed Build Alternatives would not conflict with any adopted HCP or NCCP.

XI. MINERAL RESOURCES

a) and b) No Impact. There are no sand and gravel mining operations or surface mining operations located within the project vicinity. Therefore, the proposed Build Alternatives would not have any impact on mineral resources.

XII. NOISE

a) Less Than Significant Impact. Sensitive receivers would be exposed to construction noise during construction of the proposed Build Alternatives. The closest sensitive receivers are within 50 ft of the project construction areas and may be subject to short-term noise levels of 95 A-weighted decibels (dBA) maximum instantaneous noise level (L_{max}) or higher generated by construction activities. Compliance with the Department Standard Specifications and the specified Measures N-1 through N-3 in Section 2.14, Noise, would minimize construction noise under the proposed Build Alternatives.

During construction, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table A-2 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. As indicated, equipment involved in construction is expected to generate maximum noise levels (L_{max}) ranging from 70 to 90 dBA intermittently at a distance of 50 ft. Noise produced by construction equipment would be reduced over distances at the rate of approximately 6 dBA per doubling of distance.

Pile driving will be conducted during project construction during widening of the bridge over the Santa Ana River. Pile driving generates noise levels of approximately 93 dBA L_{max} at a distance of 50 ft. If pile driving is conducted concurrently with site preparation, the construction site could potentially generate a noise level of up to 94 dBA L_{max} at a distance of 50 ft from the active construction area with both pile-driving activity and conventional heavy-duty construction equipment.

Table A-2 Construction Equipment Noise Levels

Type of Equipment	Maximum Level (dBA L_{max} at 50 ft)
Pile Driving	93
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Noise Study Report, SR-91 Westbound Widening Project (Caltrans, April 7, 2010)
dBA = A-weighted decibels
ft = feet
L_{max} = maximum noise levels
SR-91 = State Route 91

Because construction activity would be conducted in accordance with Department standard specifications as specified in Minimization Measure N-1, and would be short-term, intermittent, and in most cases dominated by traffic noise, no potentially significant adverse noise impacts from construction are anticipated, and no mitigation is required.

Table A-3 shows the existing and future Build Alternatives predicted peak-hour noise levels. As shown in Table A-3, under the future Build Alternatives, the addition of two lanes would increase traffic noise by 0.4 dBA at Receptors R-2 through R-4 compared to their corresponding existing conditions. This noise increase is not substantial and would not be readily perceptible. Therefore, the proposed Build Alternatives would not cause a substantial noise increase under CEQA, and construction for noise abatement is not required.

Table A-3 Existing Peak-Hour and Predicted Future Noise Levels

Receptor No.	Existing Peak Hour (dBA L_{eq})	Predicted Future Peak Hour (dBA L_{eq})
R-1	66.2	66.6
R-2	63	63.4
R-3	65.9	66.3
R-4	62.4	62.8

Source: Noise Study Report, SR-91 Westbound Widening Project (Caltrans, April 7, 2010)
dBA = A-weighted decibels
L_{eq} = equivalent continuous noise level

Standard Department measures will be implemented for temporary noise impacts associated with the Build Alternatives. Measure N-1 will minimize the construction noise impact for sensitive land uses adjacent to the project site. Therefore, impacts are considered less than significant, and mitigation is not required.

Less Than Significant Impact. During construction, residences have the potential to be exposed to excessive vibration. Table A-4 shows that pile drivers and jackhammers generate a groundborne vibration level of 0.644 peak particle velocity (PPV) (inches per second [in/sec]) and 0.035 PPV (in/sec) at a distance of 25 ft, respectively. The closest sensitive receptor locations are located 50 ft from the construction areas for the proposed Build Alternatives and may be subject to groundborne vibration levels of 0.30 PPV (in/sec) from pile drivers and 0.016 PPV (in/sec) from jackhammers. Based on Table A-5, these vibration levels would not result in damage to structures located nearby. Table A-6 indicates that vibration levels from pile drivers and jackhammers would be strongly perceptible and would result in residential annoyance, as recommended by the Department in its Transportation and Construction Induced Vibration Guidance Manual (Caltrans, June 2004). Compliance with the Department Standard Specifications as outlined in Measure N-1 in Section 2.14 would minimize vibration impacts. Therefore, vibration impacts are considered less than significant.

c) and d) Less Than Significant Impact. Refer to Response XII.a above.

e) and f) No Impact. The proposed Build Alternatives are not located within 3.2 km (2 mi) of a public or private airport. Therefore, no noise impacts to airports or private airstrips are anticipated, and no mitigation is required.

XIII. POPULATION AND HOUSING

a) No Impact. The project is consistent with the City of Anaheim General Plan. The purpose of the proposed Build Alternatives is to eliminate and reduce existing and future operational conflicts on SR-91 between the northbound SR-55 connector and westbound SR-91 and the westbound Tustin Avenue off-ramp. As such, the proposed Build Alternatives would accommodate projected and planned growth for the local and regional transportation system but would not contribute to new, unplanned growth in the project area. Therefore, the proposed Build Alternatives would not result in the inducement of population growth in the area.

Table A-4 Vibration Source Amplitudes for Construction Equipment

Equipment		Reference PPV at 25 ft (in/sec)
Pile drive (impact)	Upper range	1.518
	Typical	0.644
Pile driver (sonic)	Upper range	0.734
	Typical	0.170
Clam shovel drop (slurry wall)		0.202
Hydromill (slurry wall)	In soil	0.008
	In rock	0.017
Vibratory roller		0.210
Large bulldozer		0.089
Caisson drilling		0.089
Loaded trucks		0.076
Jackhammer		0.035
Small bulldozer		0.003
Crack-and-seat operations		2.4

Sources: Federal Transit Administration 2006 (except Hanson 2001 for vibratory rollers) and Caltrans 2000 for crack-and-seat-operations.
ft = feet
in/sec = inches per second
PPV = peak particle velocity

Table A-5 Guideline Vibration Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources[1]	Continuous/Frequent Intermittent Sources[2]
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Caltrans Transportation- and Construction-Induced Vibration Guidance Manual, June 2004.
[1] Transient sources create a single, isolated vibration event, such as blasting or drop balls.
[2] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
in/sec = inches per second
PPV = peak particle velocity

Table A-6 Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources[1]	Continuous/Frequent Intermittent Sources[2]
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: Caltrans Transportation- and Construction-Induced Vibration Guidance Manual, June 2004.

[1] Transient sources create a single, isolated vibration event, such as blasting or drop balls.

[2] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

in/sec = inches per second

PPV = peak particle velocity

b) No Impact. The project would not require displacement of any housing; therefore, there is no impact that would require construction of replacement housing elsewhere.

c) No Impact. The project would not displace any people and would not require construction of replacement housing.

XIV. PUBLIC SERVICES

a) Less Than Significant Impact. The proposed Build Alternatives would modify an existing transportation facility. In the long term, it would not directly or indirectly affect the provision of police or emergency services or public facilities such as schools and parks. The proposed Build Alternatives would not result in substantial adverse physical impacts to governmental facilities in the area. The project does not include the construction of housing or other development that would necessitate the construction of additional public facilities (including schools and parks) within the study area. Emergency response times are expected to improve after project completion due to improved levels of service on the project segment of SR-91.

During construction, traffic would be temporarily detoured and/or delayed, which could potentially result in a temporary increase in emergency response times in the project area. Measure TRA-1 requires a Traffic Management Plan (TMP) that would minimize traffic and transportation impacts during construction. Impacts to public services are considered less than significant.

XV. RECREATION

a) No Impact. The proposed Build Alternatives would modify an existing transportation facility. They would not increase the use of existing neighborhood and regional parks or other recreational facilities that would substantially accelerate deterioration of any such facilities. Therefore, no impacts to recreational facilities are anticipated.

b) Less Than Significant Impact. The proposed Build Alternatives would temporarily impact the Santa Ana River Trail (Trail). As discussed in Section 2.1 Land Use, the Trail would be temporarily impacted during the construction phase of the project under both Build Alternatives. The Trail would be detoured for up to 4 months during the widening of the SR-91/Santa Ana River Bridge to accommodate the additional improvements. A trail detour would be provided during the Trail detour period, and full use of the Trail would be restored following completion of the Santa Ana River Bridge widening. The Trail detour plan would be included in the Transportation Management Plan (TMP) for the project (discussed in Section 2.5 of this document). Trail access would be maintained during the temporary detour and would provide accommodation to all recreational users. Therefore, temporary impacts to the Santa Ana River Trail are considered less than significant.

XVI. TRANSPORTATION AND TRAFFIC

a) Less Than Significant Impact. The proposed Build Alternatives involve modification of an existing transportation facility. As discussed in Section 2.5, Traffic and Transportation, the proposed Build Alternatives would reduce congestion and improve the level of service (LOS) on SR-91 within the study area.

The Trail would be temporarily impacted during the construction phase of the project under both Build Alternatives. The Trail would be detoured for up to 4 months during the widening of the SR-91/Santa Ana River Bridge to accommodate the additional improvements. A trail detour would be provided during the Trail detour period, and full use of the Trail would be restored following completion of the Santa Ana River Bridge widening. The Trail detour plan would be included in the Transportation Management Plan (TMP) for the project (discussed in Section 2.5 of this document). Trail access would be maintained during the temporary detour and would provide accommodation to all

recreational users. Therefore, temporary impacts to the Santa Ana River Trail are considered less than significant.

Short-term adverse traffic impacts associated with construction would be reduced based on implementation of the TMP, as discussed in Section 2.5. Therefore, temporary traffic impacts would be considered less than significant.

b) No Impact. The proposed Build Alternatives would reduce congestion on SR-91 and improve LOS and delay on the freeway system. The proposed Build Alternatives are not anticipated to exceed a LOS standard established by the County Congestion Management Plan (CMP).

c) No Impact. The proposed Build Alternatives would not result in the construction of any features that would affect air traffic patterns and would not result in any operational effect that would result in a change in air traffic patterns in the vicinity of the project area.

d) No Impact. The proposed Build Alternatives would be constructed in compliance with Department design standards and Standard Construction Specifications. The proposed improvements do not include any hazardous design features or incompatible uses.

e) Less Than Significant Impact. The proposed Build Alternatives are anticipated to improve LOS and reduce traffic congestion on the project segment of SR-91. Therefore, the proposed Build Alternatives are expected to improve the response times of emergency services, including fire and police services, that utilize SR-91 in the long term.

During construction of Alternatives 2 and 3, traffic would be temporarily delayed and/or rerouted, resulting in a temporary increase in emergency response times in the project area. Implementation of Measure TRA-1, provided in Section 2.5, during construction of Alternatives 2 and 3 would reduce adverse impacts to emergency access. Therefore, temporary impacts to emergency services would be considered less than significant, and no mitigation is required.

f) Less Than Significant Impact. The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (with the exception of the temporary impact to the Santa Ana River Bicycle Trail during

construction). The temporary impact to the Santa Ana River Bicycle Trail is addressed in Response XVI. a above. Impacts to bicycle and pedestrian facilities are considered less than significant.

XVII. UTILITIES AND SERVICE SYSTEMS

a) **No Impact.** The proposed SR-91 Widening Project is a transportation project and would not affect the demand for waste treatment. In addition, the project would comply with the requirements of the Santa Ana Regional Water Quality Control Board (RWQCB).

b) **No Impact.** The proposed Build Alternatives involve improvements to an existing transportation facility and would not affect the demand for water or wastewater treatment facilities nor require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities.

c) **Less Than Significant Impact.** The proposed Build Alternatives involve improvements to an existing transportation facility, and construction of storm water facilities would occur mostly within existing Department right-of-way. Therefore, the project would not construct storm water facilities in areas where significant environmental impacts could occur.

d) **No Impact.** The proposed Build Alternatives involve improvements to an existing transportation facility and would not affect demand for potable water and would not affect water supplies or entitlements.

e) **No Impact.** The proposed Build Alternatives involve improvements to an existing transportation facility and would not affect demand for wastewater treatment.

f) **Less Than Significant Impact.** The solid waste disposal requirements of the project would be minor, temporary, and limited to the construction phase of the project. The amount of waste material generated during construction of Alternatives 2 and 3 would be minor and could be easily accommodated at a local landfill facility accepting construction waste. Therefore, solid waste impacts are considered less than significant, and no mitigation is required.

g) **No Impact.** Waste would be disposed of in accordance with federal, state, and local regulations related to recycling.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) **Less Than Significant Impact.** The proposed SR-91 Widening Project involves construction of improvements to an existing transportation facility in an urban area that is previously disturbed. Despite previous development, the project still has the potential to impact natural communities, wetlands and other waters, plant species, and animal species. The proposed project also has the potential to result in the spread of invasive species.

As discussed in Section 2.15.1, Natural Communities, Build Alternatives 2 and 3 have the potential to impact riverine habitat and wildlife corridors. Temporary impacts to riverine habitat and wildlife corridors could occur during construction due to the increased presence of equipment, structures, and construction personnel. Riverine habitats are addressed below in the discussion regarding wetlands and other waters. As wildlife movement primarily occurs at night, and construction activities at the potential wildlife corridors would primarily occur during the day, temporary impacts to wildlife crossings would be minimal. The bridge pier extensions proposed at the Santa Ana River would be spaced wide enough and within the same alignment as the existing piers to not obstruct wildlife movement. Because there would be no permanent obstruction to wildlife movement, project impacts to wildlife corridors would be minimal. Implementation of Measure BIO-1 would avoid and/or minimize impacts to natural communities.

As discussed in Section 2.15.2, Wetlands and Other Waters, Build Alternatives 2 and 3 would result in 4.07 and 4.43 ac, respectively, of temporary impacts to riverine habitat and 0.17 and 0.43 ac, respectively, of permanent impacts to riverine habitat. Areas of temporary impacts would only be impacted during construction to allow for construction and equipment staging. Compensatory mitigation for riverine habitat will be required for ACOE Section 404 and CDFG Section 1600 permitting. As discussed in Section 2.15.2.4 in Mitigation Measure BIO-2, it is anticipated that riverine habitat subject to ACOE and CDFG jurisdiction would be mitigated at a minimum mitigation-to-impact ratio up to 3:1 for permanent impacts and 1:1 for temporary impacts. Mitigation may involve in-lieu fee transfer to an organization that manages and restores similar riverine habitat. Final details for compensatory mitigation will be evaluated through coordination between the Department and the resource agencies.

As discussed in Section 2.15.3, habitat is absent for 18 of the 20 special-status plant species with the potential of occurring within the BSA. The remaining 2 special-status species were determined absent from the BSA through biological surveys conducted during the appropriate blooming season. Therefore, no impacts to plant species are anticipated as a result of the proposed project, and no mitigation is required.

As discussed in Section 2.15.4, Cooper's hawk and great blue heron were observed within the project area, but no nesting sites were located within the proposed impact area. A small amount of bat guano was detected within the BSA under the Santa Ana River Bridge, and it was determined that some suitable roosting exists within the BSA for the special-status bat species western mastiff bat and Yuma myotis. The widening of the Santa Ana River Bridge would likely increase future potential bat roosting habitat. Because of this, the project is not expected to substantially impact the bats' long-term use of the structures. Minimization Measures BIO-3, BIO-4, and BIO-5 would reduce potential impacts to special-status animal species to a less than significant level.

As discussed in Section 2.15.5, implementation of the Build Alternatives has the potential to spread invasive species by the ingress and egress of construction equipment contaminated by invasives, the inclusion of invasive species in seed mixtures and mulch, and the improper removal and disposal of invasive species so that seed is spread along the highway. In addition, construction may indirectly impact riverine habitats permanently through enhancing germination and proliferation of nonnative invasive plant species. Implementation of Avoidance and Minimization Measures BIO-6, BIO-7, and BIO-8 will reduce the potential for invasive species to spread from or into the project area to a less than significant level.

b) **No Impact.** The proposed SR-91 Widening Project involves modifications to an existing transportation facility, consistent with the RTP and RTIP. As discussed in Section 2.17, the proposed project would not contribute to any cumulative considerable impacts.

c) **Less Than Significant Impact.** The proposed Build Alternatives would not result in substantial adverse effects on human beings. Construction-related activities are anticipated to result in minor temporary air quality, noise, and traffic impacts that

would be minimized based on the measures provided in the IS/MND. Therefore, impacts are considered less than significant.